

## **QUESTIONS1**

- \* Brief description of last 4 - 5 years jobs.

Q: Draw Xmas tree and associated valves, gauges etc?

A: Include annulus valves and gauges, Baker hydraulic panel with supply pressures to Wing/Master (200barg) & DHSV (400barg).

Q: What is the purpose of a DHSV?

A: to prevent fuelling a Fire or Explosion on the platform. ESD would shut in event of Fire or Gas Detection.

Q: Why do we monitor annulus pressures?

A: To identify communication between annuli and it could also highlight a poor cement job. Small fluctuations expects with thermal expansion.

Q: Draw flow lines to Separator and describe what is involved in flow line, i.e. diverter valves pressure and Temperature switches, probes corrosion coupons etc.

Q: Draw Separator and internals.

A: Include Inlet deflector Baffle Plates, Weir Plate, Vortex Breakers. Demister, anti foaming pads, Water/oil & gas outlets. Jet washing and injection points.

Q: What is involved in bringing on a new well?

A: Be aware of operating procedures for bringing on new well. Ensure enough ullage in vessel, probably Test Separator. Gas set to flare and probably very little back pressure to allow effective flow back of Well completion fluids. Be aware of possible rapid rises in level and potential misreading of levels due to different fluid densities. Persons on site standing by for level read outs etc. Ensure all relevant parties and personnel aware of activity.

Q: Draw part of a compressor train, Cooler, Scrubber and compressor. Describe each step through process as though you were talking to a national.

A: Describe process from cooler off Seps through to discharge cooler including trip and protection devices.

Q: What is your essential utilities equipment?

A: Diesel System - Fuel Supplies.  
Seawater System - For Cooling.  
Air compressors - For Generator utilities.  
HVAC - For integrity of protected areas.

Q: Draw describe Glycol regeneration system?

A: Mention Filters to trap solids which can cause foaming and Low pressure and/or high flow rates causing flooding and carry over by glycol hanging up in contactor. Give what each filters are used for i.e. trapping solids and condy. Give example of other type, molecular sieve using adsorbtion.

Q: S.T.O.P. Do you use it? Give Example.

A: 1 per trip (each) and team inspections every day evenly distributed between crew.  
Reaction of People, PPE, Positions of People, Tools and equipment, Procedures and Orderliness.  
Decide - Stop - Observe - Act - Report.

Q: Describe Alarm Categories?

A: High - Medium - Low - usually signified by colour and sound of alarm.  
Utility warning, Process warning, PSD, ESD.

Q: How and why would you apply inhibits?

A: Inhibits may be applied as part of work being carried out under a work permit and will always be risk assessed, logged in inhibit register.  
An inhibit might be applied due to process anomaly but must still be risk assessed and approved prior to being applied as well as being logged in inhibit register.

Q: Explain Surge and Stonewall?

Surge:

When the discharge pressure of the compressor cannot be overcome by the head of the impeller blades (suction starvation) flow reversal occurs. Surge is defined as the minimum flow through a compressor before flow reversal occurs.

Stonewalling:

This is the point where the effective ratio across the compressor has disappeared. Stonewall is opposite to surge and is the point on the operating curve where an increase in flow results in a sharp drop in ratio and flow ceases.

Where Surge is starvation, Stonewall is over indulgence.

Q: What are the PSV types?

A: 2 basic types' bellows and Non-Bellows. Bellows are used when you have a chance of other users discharging into the same system creating a back pressure against the PSV i.e. in a flare header. They are tolerant of this where Non-Bellows are don't like back pressure applied to them.

Q: In terms of pumps what does NPSH stand for and what does it mean?

A: NPSH = Net Positive Suction Head. It is the minimum amount of suction pressure required for a pump to operate correctly, preventing cavitation.

Q: Describe how Gas lift works, the principles?

A: Gas Lift is used to maintain the differential pressure between the formation pressure and FBHP (Flowing Bottom Hole Pressure). Gas Lift mandrels are installed during completion in specially designed tubing, which has pockets to hold the Gas Lift mandrels. Mandrels will be set at specific depths depending on the characteristics of the reservoir. The gas which gets injected, usually down the 9 5/8ths annulus, will open various Gas lift mandrels in order to lighten the column of fluids sufficiently to allow the well to flow by restoring sufficient DP across the formation and FBHP's. Once the well is flowing properly the very bottom Gas lift mandrel will be the one left open.

Q: What would happen to the Separation process in a Separator if you reduce the pressure?

A: You will carry over more heavy ends.

There are general questions about permit to work systems and doing tasks follows laid out procedures. Including things like JSP's.

There also general questions about if you have trained any one in the past and what sort of experience you have at training people as the idea is to train the Nationals.

General questions about pumps types you have worked with, positive displacement and centrifugal etc.

Asked to give a brief description of dry gas seals.

Q: How would you prepare to allow man entry into Gas Suction scrubber?

A: Once all isolations and paperwork in place tests must be carried out to determine the following: Oxygen Deficiency/enrichment, Combustible Gases, Toxic Gases (H<sub>2</sub>S) plus any other substances appropriate to the process being inspected. Once the job is ready to progress the following must be in place and remain in place for the duration of the job:

1. Continuous detection equipment in position and operational.
2. Competent Standby man.
3. Appropriate PPE used.
4. Warning signs posted where appropriate.
5. Suitable rescue arrangements in place.
6. Good radio comms between work party/Standby man/CCR or Radio Room. Also give brief description of isolation process, isolated integrity test flush purge isolate fit spades etc.